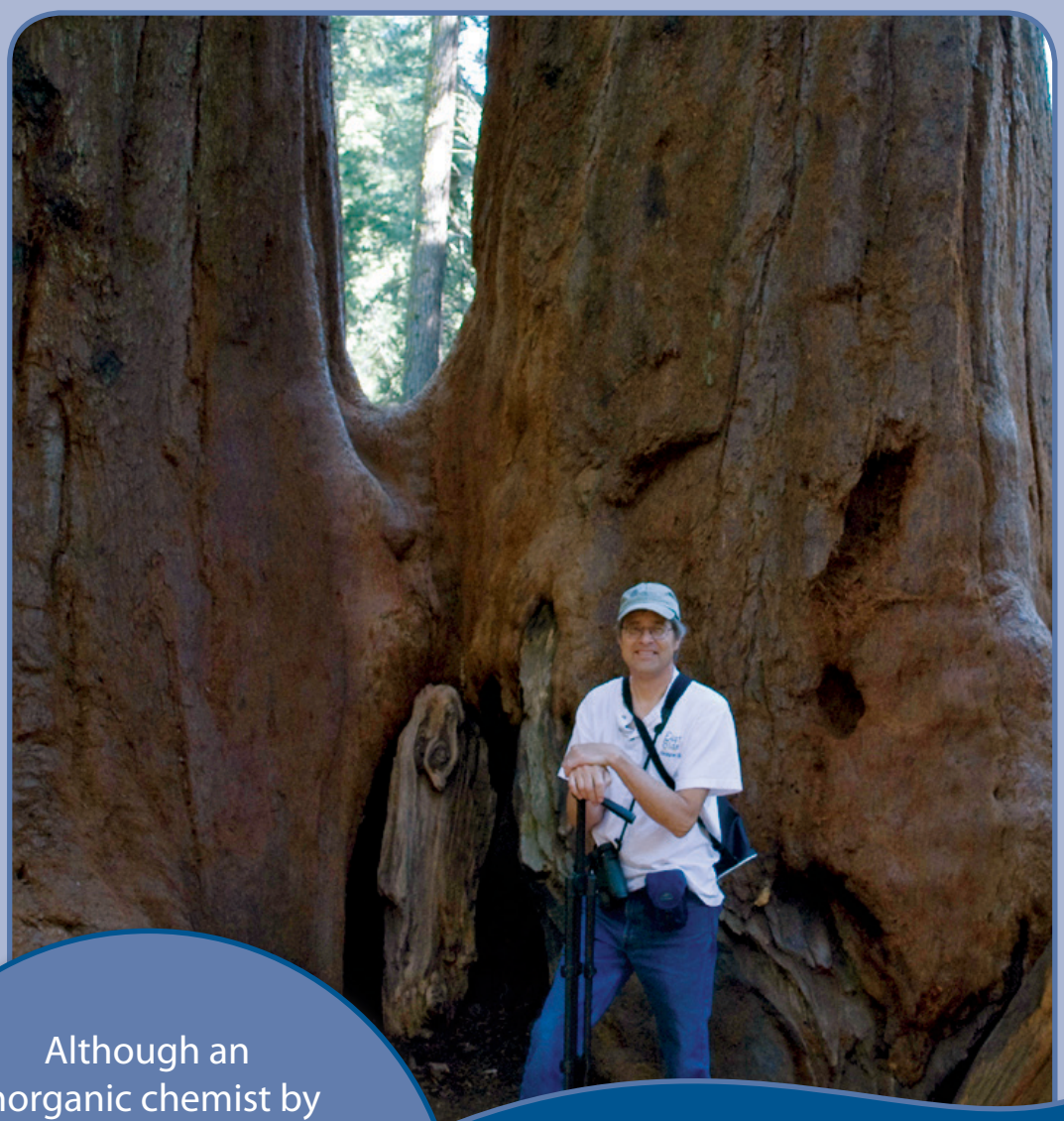
Meet the Scientist!



Although an inorganic chemist by training, I have spent my career working on the science of wood pulping and bleaching to make paper. Pulping has aspects of inorganic chemistry, organic chemistry and chemical engineering.

Dr. Alan Rudie

Inorganic Chemist

Ph.D., Massachusetts Institute of Technology

USDA Forest Service scientist

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Important Scientist Characteristics

★ Perseverance

★ Math skills

★ Careful observation

Example of a simple research question I have tried to answer:

What caused an explosion at a pulp mill? A pulp mill converts wood into pulp to be used in making paper. In 2000, a pulp mill suffered an explosion during a bleaching stage using hydrogen peroxide as the bleaching chemical. I discovered that such an explosion is the result of an unlikely and chance series of events.

Technology or equipment used in research:

I work at all different scales—lab scale with chemical glassware, pilot scale with 1-ton per day equipment, and with paper mills where I do computer models of chemical processes. The neatest instrument I have used is an X-ray spectrometer on a synchrotron beam line.

Most Exciting Discovery

In 1977 I discovered a new compound which became the final part of my PhD. That compound is used today in several catalysts. Akira Suzuki just received a Nobel prize for his work on catalysts, and part of one of the catalysts uses the compound I discovered 30 years ago.

When did you know you wanted to be a scientist?

In ninth grade I took biology and loved it. I also enjoyed chemistry and physics as well. In college I took more courses in all three basic sciences and settled on chemistry.